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DEPARTMENT OF ECOLOGY

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Ms. Susan Roth
6236 27th Avenue NE
Seattle, WA 98115-7114

Dear Ms. Roth:

RE: Comments on "Responses to Ecology's Comments on the Draft Bridge Document Report 2 and Ongoing Site Investigation Direction": Port of Seattle Terminal 91 Independent Cleanup.

The Draft Bridge Document Report 2 (BDR2) prepared for the Terminal 91 Site PLP Group (PLP Group) by Roth Consulting, was received by the Department of Ecology (Ecology) on February 3, 2003. This report addresses the portion of the Port of Seattle (POS) Terminal-91 facility where RCRA corrective action is being performed pursuant to the Model Toxics Control Act (MTCA) Agreed Order No. DE 98HW-N108.

The correspondence from the PLP Group that responded to the March 26th, 2003, comment letter from Ecology was received on May 19, 2003. Based on your responses, some of the original comments are now being addressed directly to the POS in a separate correspondence since they are more directed at the upland Voluntary Cleanup portion of the ongoing investigation.

At some point in the "Facility" investigation, the PLP Group and the POS representing the upland investigation will need to integrate the portions of the investigation that apply to the "Facility" (as defined by RCRA) into a comprehensive site model. In brief: The Terminal 91 Upland Independent Cleanup Proposed Work Plan No. 1, received in June 2000 listed as the objective "to assess the potential for impacts to surface water from the migration of groundwater that potentially has been affected by releases from the T91 upland". Ecology believes that it is important to develop a site model that considers the impacts of both the "T91 upland" and the "Terminal 91 Tank Farm Site" **combined** on the surface water and any other potential pathways of concern.

Thank you for your submittal. If you have any questions or comments, or would like to schedule a meeting to resolve comments, please contact me at the Department of Ecology Northwest Regional Office by phone at (425) 649-7280 or by email at gtri461@ecy.wa.gov.

Sincerely,

Galen H. Tritt
Hazardous Waste and Toxics Reduction Program

GHT:ct

cc: Julie Sellick, Ecology-NWRO
Ed Jones, Ecology-NWRO
Greg Caron, Ecology-CRO
Jan Palumbo, EPA Region 10
HZW File 6.2

ATTACHMENT
Ecology's responses to the PLP Group May 19, 2003 Response Letter
(Format in following Order: Ecology's original comment, PLP Group's responses, and new responses by Ecology as they relate to the Upland VCP investigation)

Specific Comments

3. Page 4. Point of clarification: The text states that the primary pathway of concern is "the groundwater to surface water pathway." Ecology concurs that this is the primary COPC *migration* pathway of concern. The primary exposure pathways of concern appear to be:

- Ecological receptors exposed to contaminated surface water
- Ecological receptors exposed to contaminated sediments
- Humans and ecological receptors exposed to contaminants by ingesting ecological receptors exposed to contaminated media

The BDR should be revised to include these exposure pathways.

The BDR1 provided more detail on exposure pathways, as stated on p. 5 of the Draft BDR2, and the risk assessment will further address exposure pathways. The primary purpose of the BDR2 was to identify data gaps associated with the site-specific potential exposure pathways and potential cleanup alternatives, also stated on p. 5 of the Draft BDR2.

Regarding Ecology's first and third bullets: The Draft BDR2 acknowledged data gaps existed with respect to uncertainty regarding the potential for contaminated surface water, and these data gaps are being addressed under the WPADC.

Regarding Ecology's second bullet: As the PLP Group has stated previously in emailed responses to Ecology's preliminary comments on the Draft BDR1, the Draft BDR1 recognized that the ground water to surface water pathway remains "open" and will require further investigation. Ecology's draft comments on the Draft BDR1 (and the Draft BDR2) (regarding sediments) jump ahead of the existing process and suggest that the marine sediments should be investigated. It is premature at best to conclude that the current investigation should now be expanded to include marine sediments. Data gathered to date does not demonstrate that chemicals from the site have been released to the surface water. Therefore, the PLP Group believes that our investigation should continue to focus on the ground water to surface water pathway. If those investigations determine that the surface water has been affected, then it may be appropriate to consider possible impacts to associated sediments.

The PLP Group objects to any expansion of the T91 Tank Farm Site investigation to include marine sediments. Besides being premature, characterization of the sediments under the Agreed Order is inappropriate because the marine sediments near T91 have likely been impacted by a host of direct discharges and incidental releases from a wide variety of sources that are not related to the T91 Tank Farm Site. In comparison, it seems highly unlikely that the ground water from T91 has had a significant impact on marine sediments, particularly when we have yet to establish any impact on surface waters. For example, direct discharge sources include the City of Seattle's 92-inch storm drain/CSO discharge and the City's 44-inch storm drain that historically received and then discharged contaminants from numerous sources, including the City's truck disposal station just north of T91. Contaminants from such discharges might be expected to include metals, oils, polychlorinated biphenyls ("PCBs"), polynuclear aromatic hydrocarbons ("PAHs"), and other priority pollutant compounds.

Regarding Ecology's third bullet: The risk assessment will address these receptors as relevant.

Ecology: The Upland voluntary cleanup investigation will need to address the historical impacts of the upland portion of the facility on the downgradient sediments. Ecology is aware of the POS's position regarding other potential PLPs; however, it is still necessary for the POS to demonstrate that the Terminal 91 site has not directly affected the

sediments. Since the POS owns the submerged portions of property around the piers, it will be necessary at some point to show that this property is not unacceptably impacted.

4. Page 6. Point of clarification: Section 2.1 states that BDR1 identified a COPC list, based on GW detections from 4/98 to 2/00. This is true, but it should be clarified in the document's revision that this list is a list of chemicals that could be a concern for:

•Ecological receptors currently exposed to surface water contaminated by these chemicals via GW discharge
•Ecological receptors exposed to surface water contaminated by these chemicals (via GW discharge) in the future
•Ecological receptors exposed, in the future, to sediments contaminated by these chemicals via GW discharge to surface water
•Humans and ecological receptors exposed to contaminants in the future by ingesting ecological receptors exposed to media contaminated by GW discharge

The reason it is helpful to keep these specific pathway linkages clear is that while detections of constituents in GW from 1998 on should be included on any *site* COPC list, they are unlikely to be the only COPCs we need to account for. For example, Ecology and the PLPs have the additional RI/FS task of assessing:

•Ecological receptors already exposed to sediments, contaminated by chemicals discharged to surface water via GW in the past (before '98)
•Humans and ecological receptors currently exposed to contaminants by ingesting ecological receptors exposed to media contaminated by historic GW discharge
•Humans and ecological receptors exposed to contaminants in the future by ingesting ecological receptors exposed to media contaminated by historic GW discharge

The BDR1 and BDR2 COPC lists, therefore, may not include constituents that were present in GW prior to monitoring, and have subsequently entered surface water and contaminated sediments. This should be acknowledged in the report.

Potential receptors were described in the BDR1 and will be further elaborated in the risk assessment (see also our responses to your comment 3 above). Regarding historic discharges, the PLP Group does not agree that this PLP Group should be responsible for identifying historic contributors to potential sediment concentration (see also our response to your comment 3 above).

Ecology: The Upland voluntary cleanup investigation will need to investigate the effects of historical[1] groundwater discharges and other releases to the nature and extent of Terminal 91 sediment contamination.

5. Page 7. While it is fairly obvious why newly detected constituents (in GW) should be added to the COPC list, it is less clear why it is appropriate to remove the 26 chemicals detected in the past, which have not been detected over the past two years. Ecology agrees that their "absence" implies that GW discharges no longer carry significant levels of these chemicals to surface water and sediments, but as noted above, their presence in samples historically suggests a concern for loading to sediments in the past. The PLPs should make it clear in the revised report what specific exposure/migration pathways will be assessed by the results obtained from GW monitoring using the presented analyte list.

As stated on page 7 of the Draft BDR2, the 26 chemicals were removed from the list because the original

[1] i.e., associated with the past land owners, or leasers, of the Terminal 91 property, as well as the current owners/tenants.

COPC list provided in BDR1 Table 1 was considered suspect because that list was generated using data that was considered to be of suspect quality and not recommended for use for decision-making purposes. The list was of particular interest because of the concern that the pre-2000 data were likely to have contained false positives. Also see our responses to Ecology's specific comments 3 and 4 above regarding exposure pathways.

Ecology: Although older Ground Water data quality (accuracy, e.g.) may be more uncertain than the quality of data more recently obtained, we consider it likely that many of the constituents detected previously were actually in the Ground Water samples. The Upland voluntary cleanup investigation should address this issue as it relates to the Historical COPCs.

7. Page 12, Section 2.4.2.1. This section discusses the "anomaly" at MW GP-02. Considering that a 1920 gasoline tank and pump were located close to this location, the results from sampling this well may not be so unexpected. It would also indicate that additional work would need to be considered on Pier 90. Provide for additional data collection within the future work plan to address this area of concern.

As discussed in our meeting on March 28, the reported 1920 gasoline tank and pump that was shown on the Figure 16 of the Draft BDR2 is outside the Tank Farm Lease Parcel. Therefore, any potential releases from that potential historical source would not be addressed as part of the Tank Farm Site investigation.

Ecology: The Upland voluntary cleanup investigation will need to propose a methodology for addressing this issue.

9. Page 18. Section 2.4.3 discusses the PAH concentrations that are higher outside of the lease parcel. This data would appear to indicate that AOC 9 and AOC 11 have contributed to the plume concentrations from the lease parcel and warrant further investigation. Provide additional discussion on the co-mingling of contamination plumes from these AOCs.

AOC 9 and AOC 11 are not associated with the Tank Farm Lease Parcel, but are being investigated by the POS as part of the T91 Upland independent cleanup being performed by the POS under the Voluntary Cleanup Program ("VCP") and overseen by Ecology. In fact, the POS installed wells GP-03 through GP-06 as part of the T91 Upland work, and the Tank Farm Site PLP Group is using the wells for its semiannual ground water monitoring program. As we discussed in our meeting on March 28, the overall strategy for the Tank Farm Site and the T91 Upland has been to focus the investigation only on potential receptors, which would be those impacted by migration primarily along the ground water to surface water pathway. The PLP Group recognizes the likelihood of the possibility of commingled plumes, but does not consider that they warrant additional discussion or further investigation under the ground water to surface water pathway scenario.

Ecology: The Upland voluntary cleanup investigation will need to address this issue. Please state how and when this will be investigated by the POS.

11. Page 27. Here, the PLPs provide "Recommendations for Additional Work." Bullets 1, 3, 5, and 6 appear reasonable. Please revise this section to include information that addresses comments on the other bullets. It should be noted that:

b) The future RI/FS Report will focus on the site's COPCs, and narrow this list to the COCs that the FS must consider in evaluating potential remedies. It is worthwhile to continue screening exposure pathways to determine if the pathways are viable, and if they are, which COPCs could be responsible for unacceptable risk/harm. For the following exposure pathways, it appears to Ecology that the PLPs are making the noted progress:

•Ecological receptors exposed to surface water contaminated by chemicals (via GW discharge) in the future: good progress focusing on

the COPCs. Is it likely/possible that the eco receptors of concern in the future will be different than those we focus on now?

•Ecological receptors exposed, in the future, to sediments contaminated by chemicals via recent/future GW discharge to surface water: good progress focusing on the COPCs.

•Humans and ecological receptors exposed to contaminants in the future by ingesting ecological receptors exposed to media contaminated by recent/future GW discharge: good progress focusing on the COPCs. What progress has there been in identifying the types of eco receptors that would be harvested by humans?

•Ecological receptors already exposed to sediments, contaminated by chemicals discharged to surface water via GW in the past (before '98): What progress has there been related to identifying the COPCs and marine eco receptors of concern?

•Humans and ecological receptors currently exposed to contaminants by ingesting ecological receptors exposed to media contaminated by historic GW discharge: As noted above, what progress has been made? related to identifying COPCs and those eco receptors which would be harvested and consumed by humans?

•Humans and ecological receptors exposed to contaminants in the future by ingesting ecological receptors exposed to media contaminated by historic GW discharge: {similar data/information needs as the preceding scenario}

•Humans and ecological receptors exposed in the future to contaminants currently in soils, which leach into GW and eventually discharge into surface water: What progress has there been related to identifying COPCs, source areas of concern, source mass terms, and the approach to modeling soil-to-GW contamination?

For these seven bulleted comments, please refer to the PLP Group response to the previous bulleted comment.

Ecology: The Upland voluntary cleanup investigation will need to address this issue. Please state how and when this will be investigated by the POS.

12. Figure 16. Ecology and the PLPs should discuss how and when the AOCs and other potential source areas on this figure would be dealt with in the RI/FS Report. It would be helpful if a brief description of when the PLPs expect to integrate the AOC information into the site assessment was made in the BDR2 report.

As we discussed in our meeting on March 28, the AOCs and other potential source areas shown on Figure 16 are not within the Tank Farm Lease Parcel and therefore are not subject to corrective action under the Agreed Order. These areas are part of the T91 Upland independent cleanup activities being performed under the VCP with Ecology oversight. See also the PLP Group's responses to Ecology's specific comment 9 above.

Ecology: The Upland voluntary cleanup investigation will need to address this issue. Please state how and when this will be investigated by the POS.